

PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON

SERIES C. JOURNAL OF MEETINGS

VOLUME 16.

No. 11, 1952

ANNUAL MEETING

WEDNESDAY, 16TH JANUARY, at 5.0 p.m.

AGENDA

1. Announcement of election of Officers and Council for 1952.
2. Admission of Fellows.
3. Council's Report.
4. Treasurer's Report and Balance Sheet.
5. The President's concluding remarks.
6. Vote of thanks to the Officers.

The meeting will be followed by tea and an informal conversazione in the Library.

Fellows are invited to show exhibits suitable to the occasion.

PROCEEDINGS OF THE ORDINARY MEETING HELD ON 5TH DECEMBER, 1951.

Mr. N. D. Riley, President, in the Chair.

Present 100 Fellows and 85 Visitors.

The minutes of the Ordinary Meeting held on 7th November were confirmed and signed by the President.

The names of the following candidates for election were read for the first time : Mr. A. J. da Silva Barbosa, Mr. D. Bevan, B.Sc., Mr. A. N. Burns, Miss J. M. Chamberlain, Mr. H. Gregson, Mr. D. Guthrie, Mr. J. G. Halcrow, B.Sc., Mr. E. T. Hamlyn, Mr. M. G. Ridpath, Mr. H. M. Russell, Mr. Stanley Shaw, Mr. B. P. Singh, Mr. L. A. Tillin and Mr. A. Worth.

For the second time (taken as read) : Mr. R. F. Chapman, B.Sc., Mr. J. B. Free, Mr. Abdalla Habib, Mr. J. S. Hough, Mr. M. M. Megahed, Mr. D. A. Odd, F.Z.S., Mr. R. J. B. Power, B.Sc., Mr. H. B. Sargent and Mr. W. H. T. Tams.

The Secretary read the names of the following newly elected Fellows of the Society : Mr. A. E. Brookes, 178, Balmoral Road, Mt. Eden, S.2, Auckland, New Zealand ; Mr. A. M. Cunningham, Pest Infestation Laboratory, D.S.I.R., London Road, Slough, Bucks ; Dr. Y. E. D. Eassa, Ph.D., B.Sc., Dept. of Entomology, Faculty of Science, Farouk University, Alexandria, Egypt ; Mr. Abdel-Hamid

Khalil, B.Sc., M.Sc., Dept. of Zoology, The University, Sheffield, 10; Mr. K. P. Lamb, M.Sc., Plant Diseases Division, D.S.I.R., Private Bag, Auckland, New Zealand; Mr. W. O. Steel, Ken, Braywoodside, Maidenhead, Berks; Mr. L. Stimson, Aloma, Jacob's Cutter Lane, Hounslow, Southampton; Dr. P. B. Stones, M.B., B.S., Virus Research Institute, Yaba, Lagos, Nigeria; Dr. R. Warwick, Medical School, The University, Manchester, 13.

Thanks were voted to donors of gifts to the Library since the last meeting.

The Secretary read for the second time the nominations for Officers and Council for 1952.

The President announced that Dr. Karl Jordan, F.R.S., would celebrate his ninetieth birthday on 7th December. It was unanimously agreed that a telegram be sent conveying the Society's congratulations.

Mr. H. W. Mackworth-Praed and Dr. D. E. Owen signed the Obligation Book and were admitted Fellows of the Society.

The President extended a welcome to the President and Fellows of the Geological Society of London.

The meeting took the form of a joint discussion on "Insect distribution and the Hypothesis of Continental Drift." The principal speakers were the Hon. Secretary, and Dr. H. E. Hinton (representing the Society) and Dr. G. M. Lees, F.R.S., and Mr. R. J. Adie, representing the Geological Society; abstracts of their papers appeared on pp. 61-63.

In the discussion which followed Professor F. E. Zeuner pointed out that in considering the Drift hypothesis it was necessary to pay attention to the time element. A reconstruction of the original southern continent as it is supposed to have existed in the Jurassic and showing the great mountain ranges of Tertiary age as suitable migration routes, is an anachronism. It is further essential to remember the palaeontological age of the various groups of insects to be considered. It is inadmissible, for instance, to quote the occurrence of such Lepidoptera as the Acraeidae in Africa and South America as evidence for Drift, since the great development of the Lepidoptera followed the appearance of flowering plants in the Middle Cretaceous, whilst South America would have begun to drift away at a much earlier date. Palaeontological evidence should not be despised however. It is reliable in groups which have been studied in detail by modern workers, such as the Mecoptera, the Tipulidae or the Orthoptera, whilst it is admittedly unsatisfactory in the Coleoptera, which as fossils occur mainly in the form of isolated elytra.

The time factor further enters into the picture when the rate of Continental Drift is considered. The rapid movements at one time postulated by Wegener for the Drift of North America must now be regarded as virtually impossible, and his evidence for the supposed changes in the longitude of Greenland is being demolished by H. A. S. Smith. For movements starting in the Palaeozoic, however, the picture is considerably more favourable for the adherents of the Drift hypothesis. The annual rate of Drift which can be computed for periods previous to the Pleistocene, varies from 7 to 20 cm. These values are in good keeping with those obtained for other crustal movements. It must further be admitted even by opponents of Drift on Wegener's scale, that large scale horizontal displacements of portions of the earth's crust have taken place. This is evident in Tertiary mountain ranges with their enormous *nappe* structures. Argand once estimated the compression suffered by the Himalayan region in the course of the folding process at 3000 kilometres. From this an average northward movement of not more than 2 cm. per annum can be calculated for the Indian Peninsula. Figures of this kind appear to be small enough to be regarded as geophysically possible.

Apart from the humid-forest connection between South America and Australia suggested by the Peloridiidae, the Cylindrachetidae, a family of the Orthoptera, suggest an arid connection between these continents. It is very difficult to assume an originally world-wide distribution for families as specialised as these, hence they strengthen the Drift hypothesis. But many other examples that have been quoted are useless, since palaeontological evidence has proved their former wide distribution in the northern hemisphere. Among these are the marsupials.

Mr. P. Evans said that in India gravity measurements show that immense areas are not in isostatic adjustment, so that he felt it was not possible to call upon isostasy as an argument as had previous speakers. It appeared that in many parts of the world, e.g. Assam, there have been great vertical movements of the order of 50,000 feet. This should be sufficient to destroy any land bridges. He pointed out that the great basalt flows of India were of Eocene, not Jurassic, age.

Dr. H. E. Hinton said that to accept the theory of Continental Drift involved accepting an early Eocene or Cretaceous origin for a fair number of recent genera. This difficulty had not received sufficient attention. Evidence from palaeontology that few recent genera of insects are likely to be as old as is demanded by the Drift hypothesis is indirect and not very convincing. In this connection it is of interest to note that some beetles, book-lice, and other insects from Lower Oligocene amber had been referred to recent species. Nearly all recent families of the specialized Heteroptera-Cryptocerata had been discovered in the Jurassic. It might also be pointed out that although there are no authentic fossil Lepidoptera from the Mesozoic, it does not seem likely that anyone will dispute a Cretaceous origin for the chief groups of this Order.

Dr. J. D. H. Wiseman said that one of the most important reasons for the great divergence of opinion was the fact that both geologists and entomologists limit their studies to only one third of the earth's surface. Two thirds of the surface is virtually unexplored and it is possible to postulate the occurrence of events within this vast area to explain any desired phenomena.

What evidence there is from the deep sea floor is not in support of Drift. For example, the mid-Atlantic ridge appears to be a compressional feature. In addition, the evidence that the deep-sea sediments are of great thickness points to the permanence of the oceans. Their deposition would not have been possible in the short time permitted by Drift in the case of the Atlantic.

Dr. Wiseman suggested that most valuable evidence concerning the theory of Drift could be obtained by deep-sea floor investigations. He cited the new discovery of Cenomanian (Upper Cretaceous) shallow water corals by the recent Scripps-U.S. Navy Electronics Division Expedition, on the sides of table mounts in the western Pacific. If similar corals were found in the South Atlantic they would show the great antiquity of this ocean.

Professor S. E. Hollingworth recalled the wide differences between the estimates of the age of the earth made by Kelvin and those of contemporary geologists. It would appear that the latter were too ready to attempt to modify their estimates to conform with those of the physicists. Conclusions from the mathematical and physical data of Geophysics were still liable to be re-interpreted, as Dr. Lees had indicated. If accumulation of geological facts of the type discussed by Mr. Adie developed in such a way as to give increasing support to the fitting together of the supposed fragments of the Gondwanaland jigsaw, that type of evidence could be overwhelming. He reminded the audience that the two points stressed by the previous speaker contained a large measure of interpretation.

E. B. BRITTON, *Honorary Secretary.*

The next meeting will be held on 6th February, 1952.

NOTICES

In addition to the *Transactions and Proceedings* (Series A, B and C), the following publications are available on application at the Society's rooms :—

THE GENERIC NAMES OF BRITISH INSECTS, WITH CHECK LISTS OF THE SPECIES, prepared by the Committee on Generic Nomenclature of the Royal Entomological Society of London, with the assistance of the Department of Entomology of the British Museum (Natural History) :—

Part 1. Recommendations relating to the publication of the Committee's Reports								Price	
"	2.	Rhopalocera	..	..	..	..	..	..	6d.
"	3.	Odonata	..	..	..	..	..	..	3s. 6d.
"	4.	Neuroptera	..	..	..	..	..	..	3s. 6d.
"	5.	Hymenoptera Aculeata	..	..	..	..	..	..	15s. 0d.
"	6.	Coleoptera Carabidae	..	..	..	..	..	..	10s. 0d.
"	7.	Coleoptera Hydradephaga	..	..	..	..	..	..	5s. 0d.
"	8.	Hemiptera Heteroptera	..	..	..	..	..	..	39s. 0d.
"	9.	Coleoptera Staphylinidae	..	..	..	..	..	..	40s. 0d.

HANDBOOKS FOR THE IDENTIFICATION OF BRITISH INSECTS.

The Society has undertaken the issue of a series of publications intended to provide illustrated Keys to the whole of the British Insect Fauna so far as this is possible.

It is proposed to cover this field in a series of ten volumes, arranged as follows :—

- | | |
|---|-------------------------|
| I. Part 1. General Introduction. | Part 9. Ephemeroptera.† |
| " 2. Thysanura. | " 10. Odonata.† |
| " 3. Protura. | " 11. Thysanoptera.* |
| " 4. Collembola.* | " 12. Neuroptera. |
| " 5. Dermaptera and Orthoptera.† | " 13. Mecoptera. |
| " 6. Plecoptera.† | " 14. Trichoptera. |
| " 7. Psocoptera.* | " 15. Strepsiptera. |
| " 8. Anoplura. | " 16. Siphonaptera. |
| II. Hemiptera.* III. Lepidoptera. IV and V. Coleoptera.* | |
| VI. Hymenoptera : Symphyta* and Aculeata.* | |
| VII. Hymenoptera : Ichneumonidea.* | |
| VIII. Hymenoptera : Cynipoidea, Chalcidoidea and Serphoidea. | |
| IX. Diptera : Nematocera† and Brachycera. X. Diptera : Cyclorrhapha.* | |

The following parts are now available :—

- Vol. I, Part 5. Dermaptera and Orthoptera. By W. D. Hincks. Price 3s. 6d. plus postage.
- Vol. I, Part 6. Plecoptera. By D. E. Kimmins. Price 3s. 6d. plus postage.
- Vol. I, Part 9. Ephemeroptera. By D. E. Kimmins. Price 3s. 6d. plus postage.
- Vol. I, Part 10. Odonata. By F. C. Fraser. Price 7s. 6d. plus postage.
- Vol. VI, Part 2a. Hymenoptera : Symphyta. By R. B. Benson. Price 10s. 6d. plus postage.
- Vol. IX, Part 1. Diptera : Introduction and Key to Families. By H. Oldroyd. Price 7s. 6d. plus postage.
- Vol. IX, Part 2. Diptera, Nematocera : Families TIPULIDAE to CHIRONOMIDAE. By R. L. Coe, Paul Freeman and P. F. Mattingly. Price 20s. 0d. plus postage.

Parts marked † are on sale or in the press, those marked * in preparation.

Orders for the complete series or for separate parts can be placed with the Registrar at the Society's rooms now, but prices can only be quoted for those parts already issued.

Fellows of the Society may purchase one copy at a discount of 25 per cent. ; additional copies at the full published price.

STYLOPS, a Journal of Taxonomic Entomology.

1932-1935. Vols. 1-4 (all issued). Price £1 16s. 0d. each ; to Fellows £1 7s. 0d.

ABSTRACT OF PROCEEDINGS OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1935. Nos. 1-6 (all issued). 3s. 0d.

HUBNER : A BIBLIOGRAPHICAL AND SYSTEMATIC ACCOUNT OF THE ENTOMOLOGICAL WORKS OF JACOB HUBNER AND THE SUPPLEMENTS THERETO. In 2 vols. By Francis Hemming. Price Vol. 1. 605 pp. £1 15s. 0d. ; Vol. 2. 275 pp. 15s. 0d.

THE HISTORY OF THE ENTOMOLOGICAL SOCIETY OF LONDON, 1833-1933. By S. A. Neave, assisted by F. J. Griffin. Price 10s. 6d.

SERIAL PUBLICATIONS IN THE LIBRARY OF THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON. 1951: Price 5s. 0d.

Published by THE ROYAL ENTOMOLOGICAL SOCIETY OF LONDON and sold at its rooms, 41, Queen's Gate, S.W. 7, price 1s. 0d.